

REMARKS

Claims 1, 4-7, 9, and 11-17 remain pending for which applicants respectfully seek reconsideration. Claim 1 has been amended to include the subject matter of cancelled claim 3 and to more clearly recite the invention. New claims 12-14 have been added to focus on certain preferred aspects of the invention, and new claim 15 represents a new formulation of the subject matter of now-cancelled claim 8. Reconsideration is requested in light of the following remarks and the accompanying English translation of the German priority document for the present application.

Examiner Ford is thanked for indicating that the proposed drawing changes have been approved.

The outstanding Office Action is understood to repeat the rejections of all of the then-pending claims as set forth in the Final Rejection dated October 22, 1999, i.e., the rejections that were based, as the primary reference, on the document entitled "Heiz-order Klimaanlage fuer ein Kraftfahrzeug," which is the priority application (filed November 8, 1996) for related U.S. Application Serial No. 08/965,962. Accompanying this response is a verified English translation of the German priority document for the present application, a certified copy of which is of record in the Official file of the present application and for which the right of priority has been properly claimed. As can be seen, Figures 1 and 2 of the present German priority document are essentially identical with original Figures 1 and 2 of the present application, and the disclosure and claims of the present priority application closely parallel the disclosure and original claims of the present application. It is believed that the claims remaining in the present application are completely supported by the disclosure of the German priority application, such that the pending claims are entitled to the right of priority based on the filing date (July 24, 1997) of the present priority document.

Thus, the rejections that were based on the document entitled “Heiz- order Klimaanlage fuer ein Kraftfahrzeug” are clearly obviated by this response because the reference has been antedated..¹

The present Office Action sets forth several additional grounds of rejection, namely, (1) the rejection of previously-pending claims 1, 3, 4, 7 and 8 under Section 103(a) over JP 58-136813 (hereinafter JP ‘813) in view of Inoue (U.S. Patent 5,775,407) and optionally DE 3514359 (hereinafter DE ‘359), (2) the rejection of claims 1, 3, 4, 7 and 8 under Section 103(a) over DE ‘359 in view of JP ‘813, and (3) the rejections of several dependent claims based on the foregoing basic rejections in light of various other tertiary references. Reconsideration of these grounds of rejection is respectfully requested in light of the following remarks.

For the convenience of the PTO, an English translation of JP ‘813 is submitted with this response.

First, as Examiner Ford knows very well, the art of automotive heating/AC systems is very well developed and very competitive. Moreover, it is well known that the industry has for many years placed considerable value on designs that are compact yet embody as many sophisticated functions as possible. The system of the present invention is characterized by a design that is extremely compact and yet is capable of providing independent control of four separate heating/air-conditioning zones within a vehicle. Claim 1 is directed to a system that embodies this advantage. In addition, according to one preferred aspect (claim 15) that is possible as a result of the present design, the system is capable of being selectively used in either a two-zone heating/AC system or in a four-zone heating/AC system. This flexibility adds an additional commercial/manufacturing cost advantage to the present invention.

¹ In submitting the document entitled “Heiz- order Klimaanlage fuer ein Kraftfahrzeug,” neither Applicants nor their counsel intended any admission that this commonly-owned document was prior art with respect to the present application. Of course, 37 CFR § 1.98(h) makes it clear that the filing of any document in an IDS does not constitute an admission that such document is prior art, and the IDS with which the document entitled “Heiz- order Klimaanlage fuer ein Kraftfahrzeug” was submitted expressly so stated. Applicants simply wish the present record to reflect this fact.

None of the systems disclosed in the prior art references cited in the foregoing rejections accomplishes either of these advantages. The JP '813 reference and Inoue do not disclose systems having four air-mixing chambers, but rather only two mixing chambers. DE '359 does disclose four air-mixing chambers, but is incapable of providing independent control of both the quantity and temperature of four separate zones. Because the air flaps 5 and 6 are in a common space supplying at least two mixing chambers, the volume of air (at least at the same temperature) cannot be independently controlled for the four mixing chambers in the system disclosed in Figs. 4-6. Of course, the design of the system in DE '359 (employing two heaters and having a central cold air path) is substantially different from the presently claimed invention, as well as offering none of the advantages.

It would seem to be an indication of non-obviousness of the present invention that the industry does not evidence a compact, advantageous system, as claimed herein, in spite of the fact that the teachings being relied upon by the PTO have been published for more than 15 years, i.e., the primary reference JP '813 was published in 1983 and the primary reference DE '359 was published in 1985. Certainly, the possibility of having four mixing chambers and the desirability of having independent control over the heating/AC of four separate zones have been recognized objectives of the automotive industry. The fact that those skilled in the art have not "modified" the teachings of the prior art in the manner suggested by the PTO to provide such an advantageous system, despite the clear desirability of such a system, ought to be evidence that the presently claimed invention was not obvious to a person skilled in the art at the time it was made.

Furthermore, there is no teaching or compelling reason evident from the prior art to arrive at the "modifications" illustrated in the attachment to the Office Action. If one were to follow the teaching of DE '359 (the only four mixing chamber design in the prior art), the artisan would not provide separate louvers 20, 21 or separate flaps 10, 11 on the top and bottom sections, for indeed, DE '359 is not designed that way. This additional modification has been made by the PTO, with the beforehand knowledge of the present invention. While it is easy to say that the additional modification is "obvious" or has

obvious advantages, the fact is that this additional modification was not recognized by those skilled in the art.

Claims 12-14 and 17 are directed to another preferred aspect of the present invention, the use of louvers and flaps to accomplish a more thorough mixing action that has the added advantage of permitting a still even more space-saving design of the system. Independent claim 12 is based on the subject matter of claim 6. While JP '813 discloses the use of louvers, it is very evident from the drawings that no value was recognized in the orientation of those louvers. For example, in Fig. 3 of JP '813, the louvers are shown closing the lower half of the heater in a way that would, when partially open, tend to deflect the warm air in the direction opposite to the cold air. Apparently, the open position of the louvers is taught to be "straight ahead." Claim 6 was rejected further in view of Denk et al.; however, Denk et al. does not teach the lateral deflection of one air stream into another, but rather discloses that the two panels of louvers 10, 10' in Fig. 1 are arranged at an angle with respect to one another. Thus, the louvers are essentially in the straight ahead orientation when they are open. Only in hindsight could this be deemed to suggest the lateral deflection employed according to the present invention.² Thus, the prior art recognizes neither the structure of claim 12 nor the advantages obtained by that structure.

As noted above, claim 15 is directed to another preferred aspect of the invention. This design, which allows use by an auto manufacturer in either a four-zone or a two-zone model, with only minor changes involved in uncoupling the respective flaps/louvers on each side, is supported by the disclosure bridging pages 7-8 of the specification. (See also page 9 of the English translation of the priority document.) It is believed that this feature is also unobvious over the prior art and is deserving of patent protection.

The remaining dependent claims that have not been specifically discussed above are submitted to be patentable for at least the same reasons set forth above with regard to

² The same is true of DE 4119474, used earlier in the prosecution, which also shows the "open" position as having the louvers point straight ahead. In this reference, mixing of the warm and cold air takes place not because of lateral defection by the louvers, but rather because the respective warm and cold air supply passages are at an angle to one another.


their parent claims. Thus, the additional references cited and relied upon by the PTO do not remedy the deficiencies noted above for the basic references.

Conclusion

Applicants believe that the "invention as a whole" defined by the claims remaining in the application patentably distinguishes over the prior art and request reconsideration of the rejections raised in the outstanding Office Action. Applicants submit that the present application is in condition for allowance and courteously solicit its allowance.

Respectfully submitted,

Date: September 5, 2000


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